

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 09/848,402

REMARKS

Reconsideration of the Office Action and entry of the accompanying amendments is respectfully requested. Applicants would like to thank the Examiner for discussing the present case on November 4, 2003 relative to the claim amendments corresponding to the claim set accompanying this Amendment (except where noted below). Reference is also made to the Examiner's Interview Summary Record relative to the earlier phone conversation of October 2, 2003.

In the October 2, 2003 phone conversation, in addition to referencing the earlier discussion in the responses distinguishing the claimed invention over the various applied references, there was additional discussion of how the present invention is considered to distinguish over the Fukui et al reference. As noted during the phone discussion Fukui et al applies a different sensing technique as in the present invention which leads to structural distinctions. Fukui involves an electroconducting stretch fabric that (as shown in Figures 1 and 3, for example) relies on stretching of the fabric to bring into closer contact conducting portions of the fabric. As explained in col. 13, lines 15-55 this electroconductive fabric sheet can be laminated on one or both sides to "become greater in strength and elongation at break..." A laminated layer can also be made as an anisotropic electroconductive elastomer. As further noted in Col. 15, lines 5-13, the compression aspect is relative to the change in compression deformation between the electrodes which is applicable to the electroconducting fabric stretching and increasing the amount of conductive fiber contact in the stretched fabric having the laminate and extending between the electrodes. The embodiments relied upon in the office actions under the family of figures discussed in Col. 24 of the Fukui application include a laminate stack having the central "stretch sensitive electroconductive sheets (fabric), 74," with the laminated

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stretch sensitive electroconductive sheets 73, 73'. Thus, activation of the electroconductive fabric involves a stretching requirement by the design of the fabric and the illustrated and relied upon embodiments thus clamp the ends of the stretch fabric. This is unlike the present invention wherein the semiconducting material is coated over the top of the electrodes supported by, for example, the insulating fabric layer (see claim 1 for example) and thus capable of detecting passenger detection relative to compression deformation of the material stuck to the electrodes relative to the different active zones of the divided layer of semiconducting material applied to the electrodes. As seen from the interview summary record this distinction was recognized by the Examiner as structurally distinguishing the claims relative to Fukui et al.

During the subsequent phone discussion on November 4th, there was a discussion of the advantageous arrangement of the present invention outlined in, for example, the background discussion extending across the bottom of page 4 to the top of page 6 of the present application. As described therein, the present invention features a flexible supporting sheet on which is deposited at least two electrodes to which is stuck a layer of semiconducting material to the top of those electrodes. As a "layer" is in intimate contact with the upper surfaces of those electrodes, and the layer has an internal resistance which varies, the bridging semiconducting layer stuck to said electrodes provides for passenger detection upon compression of the elastomeric layer of semiconducting layer stuck to the top of the electrodes. Also the layer of semiconducting material is divided into several zones which are arranged relative to the electrodes to define different "active zones" which provide for sensing passenger presence based on deformation of the semiconducting material in that divided layer portion of the semiconducting material bridging the electrode structures. This arrangement provides for the ability to use only one supporting sheet and avoids the rigidity and thickness levels presented by

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the prior art arrangements as in those discussed in the background portion of the present application. Moreover, in addition to making for more efficient manufacturing process capability and low material usage, the arrangement of the present invention avoids lamination pockets which represent a source of sensor degrading humidity due to the need for pressure equalization ventilation apertures.

During the November 4th discussion reference was made to the Taylor PCT reference by the examiner. This reference is representative of the problematic prior art as it relates to a "through mode" detection device. As seen, for example, from the foot sole detection device of the Figure 7 series of Taylor, there is featured an upper electrode sheet and a lower electrode sheet which as shown in Figures 7C and 7D features longitudinal and lateral electrode strips which are positioned above and below an intermediate piezoelectric mesh layer. In this regard, reference is made to the Abstract of Taylor which sets forth that the "piezoelectric mesh layer (33) is sandwiched between an array of row (34) and column (31) conductor strip laminations..". Thus the "active zones" are relative to a vertical sandwich arrangement with above and below criss-crossing grid locations for the row and column strips (31) and (34). This is unlike the present invention where the elastomeric semiconducting layer is stuck on the upper surfaces of the sensing electrodes and the active zone is represented by the layer component that is applied over the electrode structures supported on a common substrate as in the insulating fabric layer of claim 1. Taylor fails to disclose such an active zone arrangement.

The amendments made in addition to those presented in the proposed claim set include an indication that the semiconducting layer is stuck on the electrodes, in claims 30 and 32 which is considered in conformance with the preexisting continuous intimate contact claim language, and the removal of stuck in claim 37 and inclusion of "print".

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In the noted phone discussions, it was also noted that the present claims refer to a passenger detector and thus the prior art directed at, for example, sensor gauges on a cantilever beam or a laptop cover wire ribbon fail to disclose or suggest the claimed passenger detector. In this regard the earlier discussion as to how the present claims distinguish over these additionally applied references is incorporated herein.

In view of the foregoing it is respectfully submitted that the present application stands in condition for allowance.

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Applicants respectfully submit that this Amendment and the above remarks obviate the outstanding rejections and objections in this case, thereby placing the application in condition for immediate allowance. Allowance of this application is earnestly solicited.

If any fees under 37 C.F.R. § 1.16 or 1.17 are due in connection with this filing that are not accounted for, please charge the fees to Deposit Account No. 02-4300, Order No. 033918R008.

Respectfully submitted,

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